

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/051034

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H05K13/04 H05K3/30

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/184755 A1 (SUHARA SHINSUKE) 12 December 2002 (2002-12-12) page 11 - page 27; figures 1-16	1,8-11
Y	-----	2-7
Y	DE 196 10 294 A (ROSSELL AG) 10 October 1996 (1996-10-10) column 1, line 3 - column 1, line 37	2,3
Y	EP 1 161 129 A (FUJI MACHINE MFG) 5 December 2001 (2001-12-05) column 25 - column 26	4-7
A	US 4 776 080 A (CHRISTENSEN BLAKE) 11 October 1988 (1988-10-11) the whole document	1-11

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

15 November 2004

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22/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Debre, A

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002184755 A1	12-12-2002	JP 2002368494 A	20-12-2002
DE 19610294 A	10-10-1996	DE 19610294 A1	10-10-1996
EP 1161129 A	05-12-2001	JP 2001345596 A	14-12-2001
		EP 1161129 A2	05-12-2001
		US 2002053133 A1	09-05-2002
US 4776080 A	11-10-1988	JP 63162141 A	05-07-1988